

REMARKS

Summary of Office Action

Claims 1-24 were pending in the application.

Claim 1 has been rejected under 35 U.S.C. 102(b) as being anticipated by Komabashri et al. U.S. patent No. 4,863,524 ("Komabashri"). The Examiner alleges that Komabashri discloses a cleaning agent which comprises an inorganic salt (at col. 1 lines 22 and col. 2 lines 25-30), an organic acid (at col. 2 lines 35-40, a surfactant (at col. 1 lines 26 and 52), hydrophilic oxygen contain solvents (at col. 2 lines 59-69) and water (at col. 4 lines 15-20).

Claim 2 has been rejected under 35 U.S.C. § 103(a) as being obvious from Komabashri in view of Beggs et al. U.S. Patent No. 6,472,360 B1 ("Beggs"). The Examiner alleges that Beggs shows a thickener and viscosity of cleaning agent which are not shown by Komabashri.

Claim 3 has been rejected under 35 U.S.C. § 103(a) as being obvious from Komabashri in view of Rahese et al. U.S. patent application publication No. 2004/0053808 ("Rahese"). The Examiner alleges that Rahese shows a washing and cleaning agent that comprises a discoloration indicator, which are not shown by Komabashri.

Claim 4 has been rejected under 35 U.S.C. § 103(a) as being obvious from Komabashri and Rahese in further view of Cornelius et al. U.S. patent application publication No. 2004/0053808 ("Cornelius"). The Examiner alleges that Cornelius the claimed composite shows a washing and cleaning agent that comprises a discoloration indicator, which are not shown by Komabashri.

Claims 5-24 have not been examined as the Examiner is objecting to their multiple dependent format.

Applicants' Reply

Applicants have amended the claims to remove the multiple dependencies and to conform to U.S. patent practice format. Applicants also note that new claim 25 combines the elements of cancelled claims 1 and 2.

Applicants respectfully traverse the prior art rejections.

Claim 25

The discoloration removal cleaning agent for titanium and titanium alloy building materials, according to claim 25, includes

a water-soluble inorganic acid salt,

an organic acid or organic acid salt,

a surfactant,

a hydrophilic oxygen-containing hydrocarbon solvent, and

water,

wherein said cleaning agent satisfies at least one of the following conditions:

the cleaning agent comprises at least one type of thickener; and

the viscosity of said cleaning agent, measured at room temperature, is 100—
10,000 mPa.

Applicants submit that these elements of claim 25 are not shown, taught, or suggested by the prior art to a person of ordinary skill in the art.

Komabashri describes a cleaning solution for removing scales inside a polymerization reactor. However, Komabashri's cleaning solution does not satisfy either conditions:

the cleaning agent comprises at least one type of thickener; and

the viscosity of said cleaning agent, measured at room temperature, is 100 - 10,000 mPa.

Beggs describes an improvement of a liquid peroxygen bleach, particularly for toilet cleaning, by mixing a plurality of thickener-containing solutions having a viscosity of 20mPa·s or less to increase the viscosity to 50mPa or more.

However, Beggs' cleaning solution, unlike applicants' claim 25, does not include water-soluble inorganic acid salt,

an organic acid or organic acid salt,

a surfactant,

a hydrophilic oxygen-containing hydrocarbon solvent, and

water,

wherein said cleaning agent satisfies at least one of the following conditions:

the cleaning agent comprises at least one type of thickener; and

the viscosity of said cleaning agent, measured at room temperature, is 100 -10,000 mPa.

Applicants further note Komabashri describes a cleaning solution for removing scales inside a polymerization reactor, while Beggs describes a liquid peroxygen bleach for toilet cleaning. Applicants respectfully submit that that a person of ordinary skill in the art would not combine Komabashri and Beggs to reach the present invention which relates to a discoloration removal cleaning agent for titanium and titanium alloy building materials of the present invention.

Applicants also note that Beggs et al. mixes a plurality of solutions having a viscosity of 20mPs or less to finally increase the viscosity to 50mFs or more, which composition is different from that of the present invention.

For at least the foregoing reasons, applicants respectfully submit that claim 25 is non-obvious and patentable over the cited art.

Claims 26-45

Claims 26-45 are patentable for at least the same reasons claim 25 is patentable over the cited prior art, which makes the individual rejections of the dependent claims moot. Applicants, therefore, do not address the individual rejections herein, but reserve the right to do so in further prosecution is necessary.

Claims 46-50

Independent method claim 46 corresponds to the previous independent method claim 20 which was not examined in the previous Office Action. Applicants request examination and a First office Action on these claims.

Claim 46 reads:

A discoloration removal cleaning method for a particular material which is at least one of a titanium building material and a titanium alloy building material, comprising the steps of:

- a) coating discolored sections of the particular material with a discoloration removal cleaning agent, the cleaning agent including a water-soluble inorganic acid salt, a composition including one of an organic acid and an organic acid salt, a surfactant, a hydrophilic oxygen-containing hydrocarbon solvent and water;
- b) allowing the coated sections to stand for a predetermined time period; and
- c) removing the cleaning agent by water washing the coated sections.

Applicant submit that the foregoing elements of claim 46 are not shown, taught or suggested by the cited prior art. Therefore claim 46 (and dependent claims 47-50) are patentable over the cited art.

Conclusion

Applicants respectfully submit that this application is now in condition for allowance. Reconsideration and prompt allowance of which are respectfully requested.

Applicants request that the Examiner should kindly contact the undersigned attorney by telephone for discussion in case there are any remaining issues that need to be resolved.

Respectfully submitted,

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